

AMENDMENTS TO THE CLAIMS

1-16. (Cancelled)

17. (Previously Presented) A computer implemented method for screening a subject for disorders of glucose metabolism, comprising steps of:

measuring a glucose concentration profile using a glucose concentration analyzer, said glucose concentration profile comprising a plurality of blood glucose concentrations from at least after a glucose or meal challenge;

generating a screening factor, wherein said screening factor comprises a mathematical representation of at least a plurality of glucose concentrations within said glucose concentration profile, wherein said screening factor is uniquely associated with a state of glucose metabolism disorder, wherein said state of glucose metabolism disorder comprises any of:

diabetic,

pre-diabetic; and

hyperinsulinemic;

classifying the subject into one of said states of glucose metabolism disorder based on evaluation of said screening factor; and

outputting said one of said states of glucose metabolism disorder to a display,

wherein said step of generating a screening factor comprises the step of calculating a weighted average of weighted parameters according to:

$$SF = \frac{(P_1W_1 + P_2W_2 + P_3W_3 + P_4W_4 + P_5W_5 + P_6W_6)}{(W_1 + W_2 + W_3 + W_4 + W_5 + W_6)}$$

wherein  $SF$  is said screening factor,  $P_1$  is a first parameter, said first parameter comprising glucose concentration,  $P_2$  is a second parameter, said second parameter

comprising rate at which glucose concentration rises,  $P_3$  is a third parameter, said third parameter comprising maximum monitored glucose concentration;  $P_4$  is a fourth parameter, said fourth parameter comprising duration that glucose remains elevated;  $P_5$  is a fifth parameter, said fifth parameter comprising rate of decrease of glucose concentration after a peak; and  $P_6$  is a sixth parameter, said sixth parameter comprising minimum glucose concentration after a maximum; and wherein  $W_1$ ,  $W_2$ ,  $W_3$ ,  $W_4$ ,  $W_5$ ,  $W_6$ , are weighting factors, wherein at least two of said weighting factors are non-zero.

18-33. (Cancelled)